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TITLE : CHIP BONDING PROCESS

ABSTRACT : PURPOSE: To use melting bond by removing the oxide film on the surface of solder instead of using flux.

CONSTITUTION: Substrate 4 and chip 1 are heated to a temperature below the melting point of solder by means of fitted heaters 10 and 9 respectively. In this state, solder pieces 2 and 5 are lowered just before they touch one another, and later rod 8 is given ultrasonic vibration and micro-descent. Oxide film on the surface of the portion at which both the solder pieces 2 and 5 come into contact is peeled off, and by friction heat due to ultrasonic vibration, solder pieces 2 and 5 are partially melted and bonded together. When the entire part comes into a state of partial melting, solder pieces are heated up to above the melting point, and solder pieces 2 and 5 of the chip and substrate sufficiently re-flow and are bonded by melting. In this way, flux is unnecessary and operation efficiency is increased.

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